

21st Century Graphics and other Office 12 advances

Brendan Busch

Group Program Manager

Presentation and Graphics Services



A bit about the team

- "Presentation and Graphics Services"
 - "Graphics Product Unit", "Graphics Business Unit"



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 - "Graphics Product Unit", "Graphics Business Unit"
- What we do:
 - PowerPoint
 - OfficeArt
 - Shared drawing (Word, Excel, PowerPoint, Publisher, Front Page)
 - Graphics services (IE, SharePoint, Access, etc)
 - Tablet support
 - Meetings Workspaces (in SharePoint)



Some key team innovations

- Extending GDI (PowerPoint 2.0 – PowerPoint 95)
 - PP3: Metafile enhancements: scale, stretch, recolor
 - PP95: Halftone pens, halftone palette
 - Printing support



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- HTML output innovations (Office 2000)
 - Scalable HTML
 - VML



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- GDI+ Integration (Office XP)



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- GDI+ Integration (Office XP)
- Ink support (Office 2003)



The Office development process



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Tight ship schedules

Historically every 2 years

- Code Complete is 1 year before RTM
- ~24 weeks of coding / release

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- Security
- Supportability (7 year support promise)
- Builds, test tools, etc

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This makes it very hard to get code from
"outside" (contractors, vendors,
research)

Key themes for Office 12

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- OfficeArt

- 21st century graphics

- Enhance

- Images

- Artistic rendering

- Realistic 3D text and graphics

- Ink

- Rich text and graphics

- Enhance the look of the graphics

Key themes for Office 12

OfficeArt.

- 21st century graphics

 - Effects

 - Themes

 - Rich text engine

 - Integrated text engine

- Ink

 - Picture and text in context

 - Annotations and comments

PowerPoint

- 21st century documents

 - OfficeArt improvements

 - Animation and transitions

- Pitchbooks – support for dense printed documents

- Presentation assembly and digital asset management

- Presenting improvements – leveraging multiple monitors

- Digital meetings – remote attendees, recording presentations

- XML and handling of a new file format

21st century graphics for Office 12

Word / PowerPoint output circa 1994

Cote Ware

Which spreadsheet is preferred when it is presented on the computer?

It is a matter of taste. Some people like the look of the spreadsheet, others like the look of the spreadsheet.



Microsoft is the preferred spreadsheet. It is the most popular spreadsheet. It is the most popular spreadsheet. It is the most popular spreadsheet.

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Word / PowerPoint output circa 2003

Cold Wave

Which beverage is consumed more on a given day on campus?

[illegible][illegible]

The first step was to provide a good
example of the use of the
new system. The first step was to
provide a good example of the use of the
new system.



21st Century Output

Office 12 will empower users to easily create documents that appear as if authored by a graphic professional.

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Cola Wars

Which beverage is consumed more in a given day on campus?

1. In the morning
2. In the afternoon
3. In the evening
4. In the night
5. In the day
6. In the night
7. In the day
8. In the night
9. In the day
10. In the night

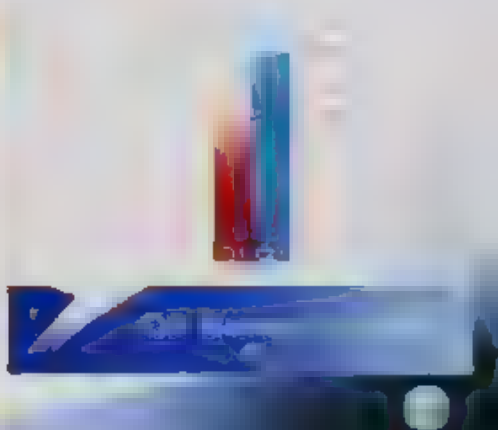
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The first beverage program designed
to be the most popular. The
program is designed to be the
most popular. The program is
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21st Century Output

Office 12 will empower users to easily create documents that appear as if authored by a graphic professional.



Scenarios

"Apply Design" transforms plain documents to professional design in all the Office applications. The quality of output rivals what people see in magazines, advertisements, and other professionally created content.

Q2 Sales up 86%



Scenarios

Apply Design™ transforms plain documents to professional design in all the Office applications. The quality of output rivals what people see in magazines, advertisements, and other professionally created content.

Any user can create great looking templates that work on all their Office documents (Folio,



Publisher



PowerPoint



+ Word FrontPage Visio

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All the visual effects (transparency, soft shadows, WordArt, 3D, etc.) people expect are easily available.

012

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All the visual effects (transparency, soft shadows, WordArt, 3D, etc.) people expect are easily available.

"Everything I do looks good" — we provide tools that really work for the average document author.

Key efforts towards 21st Century Output

OfficeArt 2.0 - Graphic and Text Effects

Transparency, soft shadows, high quality fills, 2^{1/2}D, 3D effects

Text - improved typography, layout, WordArt, Tables

Cross-Office integration for output & theming

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- Diagrams

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Publisher & the Apps – Templates/Styles

- Folio
- Documents, tables, backgrounds, diagrams, color schemes, etc.

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App specific improvements

Word, PowerPoint, Excel, FrontPage, Publisher, Visio

Scenario: "Apply Design"

"Apply Design" transforms plain documents to professional design in all the Office applications.

- More than simple color + font

- Structural transformations

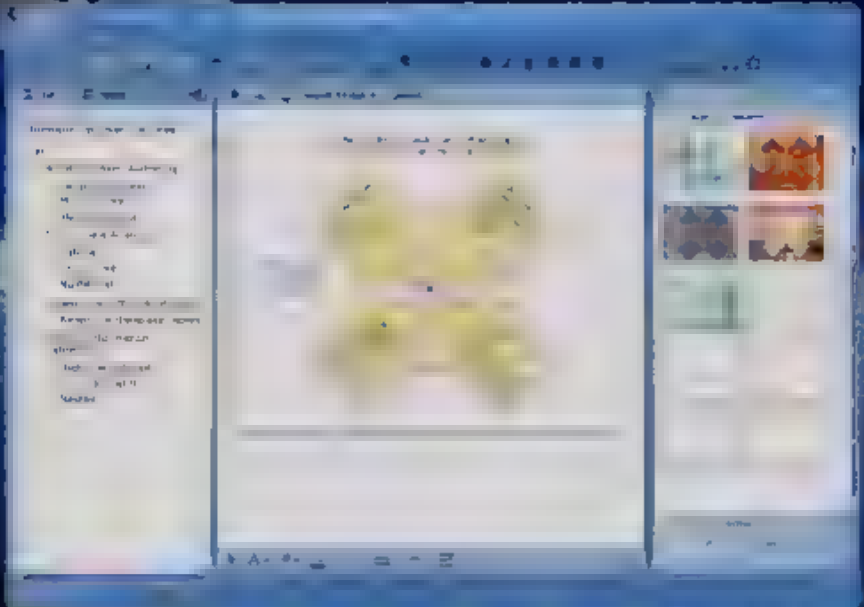
- Apply to all graphic objects in document

Consistent user interface in all the applications provides powerful results.

- Word, PowerPoint, Excel, Visio, FrontPage, Publisher.

Color schemes are useful and well integrated





Adventure Wine Sales Report

1. **Introduction**
 2. **Background**
 3. **Methodology**
 4. **Results**
 5. **Conclusion**
 6. **References**

[illegible]

Scenario: "Folio"

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The Folio is both:

A flexible definition of a master document theme that utilizes common components (colors, fonts, graphics) and app-specific settings (chart styles, backgrounds)

An innovative way to create these themes that yields unique, personalized, and professional results.

Folio

+

Application

=

Professional Results



Arial
Tahoma

LOGO

=



Markets & Margins
Marketing Strategy

Customer Segmentation

100%

100%



Volume Up



Markets & Margins
Marketing Strategy

Customer Segmentation

100%

100%

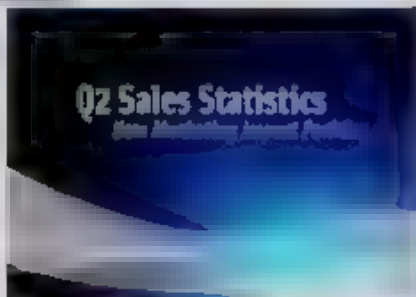


Volume Down

Folios help users create consistent documents across the Office family



Publisher



PowerPoint



Excel

OfficeArt 2.0: Take Office Graphics to the 21st Century!

21st Century Output

Enable Office customers to create 21st century documents using new visual effects.

Editing Consistency

Make creation, manipulation, and editing of all graphical elements consistent across Office.

Intelligent Styles

Help the user create graphics that match and enhance a document's purpose. Every choice looks good!

High Quality Output

Take advantage of current generation hardware to create high quality output to screen, web and print.

OfficeArt 2.0

012

Rendering Effects

- Raster effects on all objects glow, bevel, etc
- Soft shadows
- Natural line and fill styles
- 3D - light sources, extrusions, rotations

012



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OfficeArt Integration Platform

- Ease of integration
- Consistent user interface
- Simplified anchoring mode
- Application customization
- Template (folio) and color scheme support



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Common Text Engine

- Rich text capable of meeting application needs (e.g., PowerPoint)
- Natively "wordArt" enabled (GE effects on text)

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OfficeArt 2.0



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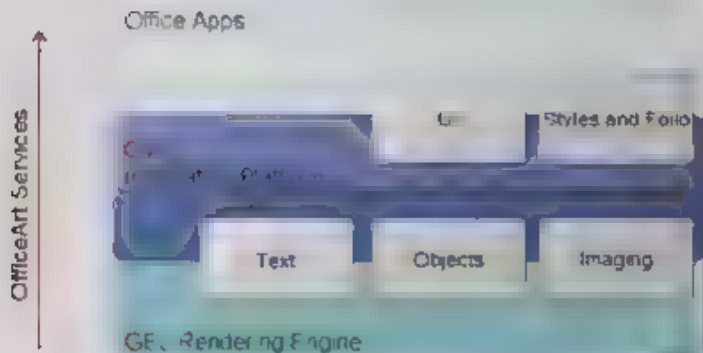
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Imagined improvements - editing & effects



OfficeArt Pillars Diagram



What the GEL Provides: Fills

- Solid color
- Gradients
 - Linear - various orientation
 - 2+ colors
 - Conical, radial, square
 - Gradient control
 - Allow user to set blending point for the start or end color
 - Gradients on lines and curved paths
- Textures and Images
 - Treated as the same internally
- Patterns
 - Legacy and charting
- Animated and Video Fill

What the GEL Provides: Fills

Effect Gallery UI

Gradient Text

Mission

Gradients are cool

Gradient: conical



Picture Fills
with soft edging



Motion Fills - Pickin' Fill
with animated Ripple Effect



What the GEL Provides: Line Styles/Edges

Artistic Brushes

Oil - streaky crackle
Charcoal Brush

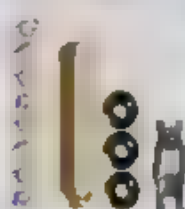


Object with artistic
Edges



Teddy bear clipart rendered with
various artistic strokes

Photo Brushes



Soft Edges



Rough Edges

**rough
it up**

Line Style UI



What the GEL Provides: Line Styles/Edges

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Charcoal Brush



Object with artistic
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Teacup clipart rendered with
various artistic strokes

Photo Brushes



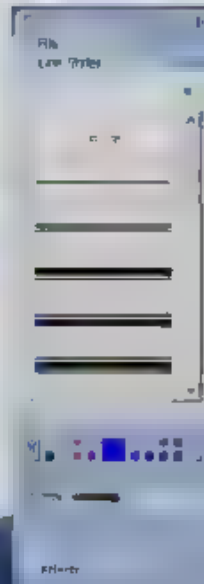
Soft Edges



Rough Edges

**rough
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Line Style UI



What the GEL Provides: Effects

Shadow

inset, offset and inner shadow types

Transparency

opacity, color and gradient
Background color and
additional gradient and color strokes

color Effects

color, gradient, stroke, fill, stroke width, stroke dash, stroke cap, stroke join

Distortion and Skew

3D Effects

3D extrusion, 3D bevel, 3D emboss, 3D drop shadow, 3D layer, 3D text, 3D shadow

Blur and glow

blur, glow

3D scenes

3D scene, 3D scene, 3D scene, 3D scene

What the GEL Provides: Effects

Shadow Effects

hello

3d shadow

Transparency



3D Effects



Glow Effect

Thank you
Commission

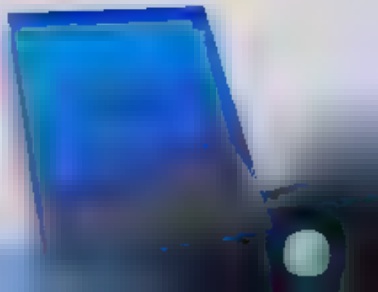
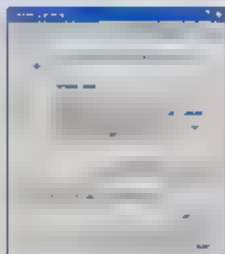
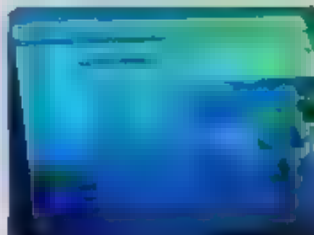


Line Style UI:



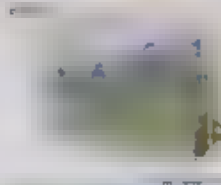
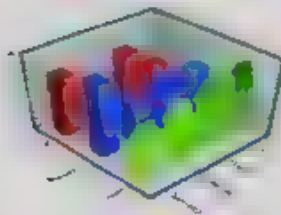
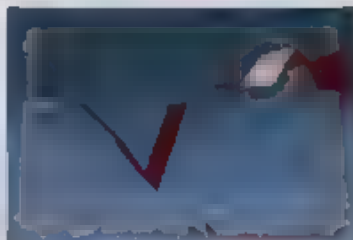
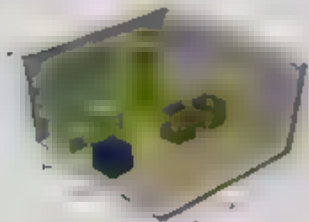
What the GEL Provides: Effects

color Effects. Tinting
with Skew



What the GEL Provides: Effects

3D Effects 3D Scenes
for Charting



Text and Tables Engine

Trans
ormation

2

Text Goals

Unify text, WordArt, and graphics

Guarantee rendering and printing fidelity cross-app

Satisfy client (visio, chart, folio) reqm'ts and lower implementation costs

Improve text features (attached text Photoshop top use includes putting text on images)



Features

Superior text rendering using Longhorn Text services:

- ClearType subpixel alignment

- Line Services 4.0
- Improved Int'l support

Apply graphical effects to inline and attached Text

Improve Text anchoring

Text following paths or shapes

Text wrapped to/by an arbitrary polygon

Text stretched to an arbitrary polygon

Kerning and manual tracking Ligatures

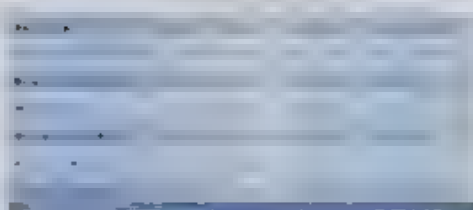
Shared Text Engine needs to support Ink integration requirements

Tables

Customers need
graphically modern
tables

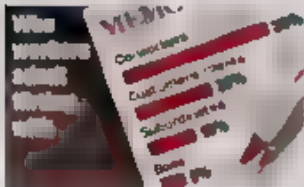
Work towards
consistency across
Office (editing, styles)

Needs to be reconciled
with existing tables
(each app has one)



Header 1	Header 2	Header 3	Header 4	Header 5
Row 1 Col 1	Row 1 Col 2	Row 1 Col 3	Row 1 Col 4	Row 1 Col 5
Row 2 Col 1	Row 2 Col 2	Row 2 Col 3	Row 2 Col 4	Row 2 Col 5
Row 3 Col 1	Row 3 Col 2	Row 3 Col 3	Row 3 Col 4	Row 3 Col 5
Row 4 Col 1	Row 4 Col 2	Row 4 Col 3	Row 4 Col 4	Row 4 Col 5
Row 5 Col 1	Row 5 Col 2	Row 5 Col 3	Row 5 Col 4	Row 5 Col 5
Row 6 Col 1	Row 6 Col 2	Row 6 Col 3	Row 6 Col 4	Row 6 Col 5
Row 7 Col 1	Row 7 Col 2	Row 7 Col 3	Row 7 Col 4	Row 7 Col 5
Row 8 Col 1	Row 8 Col 2	Row 8 Col 3	Row 8 Col 4	Row 8 Col 5
Row 9 Col 1	Row 9 Col 2	Row 9 Col 3	Row 9 Col 4	Row 9 Col 5
Row 10 Col 1	Row 10 Col 2	Row 10 Col 3	Row 10 Col 4	Row 10 Col 5

Improvements to Text anchoring



Anchors above and next to bar

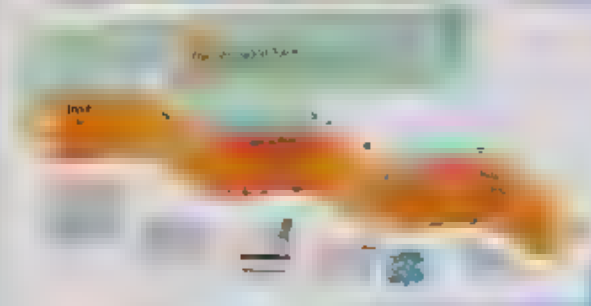
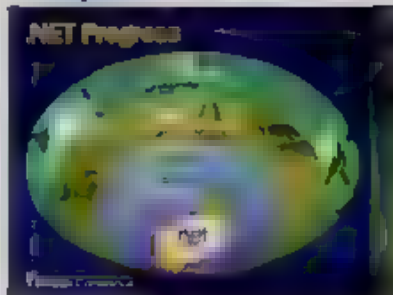
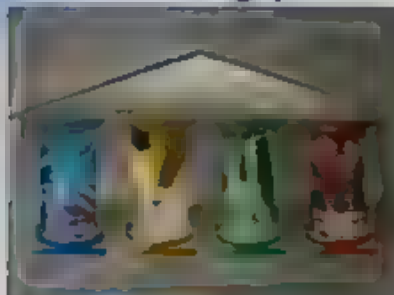
Caption

Caption
Caption

Caption

*Possible anchor points for
captioning and annotating images*

Text following paths or shapes



Text wrapping to/by an arbitrary polygon



Text stretched to an arbitrary polygon



OfficeArt



OfficeArt

International support



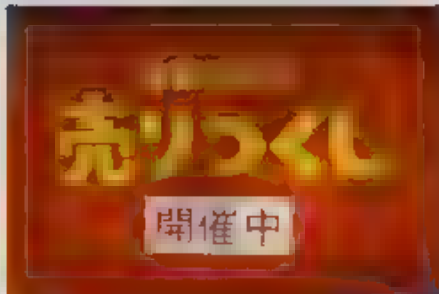
Arabic text with glow effect



Chinese text with soft shadow



Arabic text with solid fill and outline



Japanese text with thick stroke
(could also be made to form)

OfficeArt UI Improvements

Goals of a OfficeArt 2.0 UI

End User Success

- Design the interface for all levels of users

One Step Formatting

User in Control

- Feature specific customization deeper than presets

Context Sensitive

- Responsive UI based on selection and task

Real Time Feedback

- Users see the outcome of their actions

- UI Performance

Consistency

- Between all clients of Office Art

Imaging: Goals

Continued and improved support for I-Worker scenarios relating to accessing, manipulating and sharing of digital pictures and images.

- Picture Manager
- Office applications

Focus areas:

- Image improvements and corrections
- Image creation and effects
- Integration of new imaging technology

Imaging: Improvements and Corrections

Improve our set of graphic correction tools and make them available to any Office application

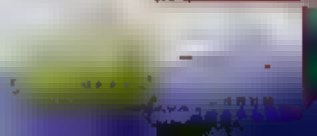
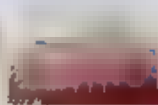
- MSR/Longhorn corrections
 - Auto-Correct automatically corrects color and brightness
 - Auto-Red Eye find eyes and correct
 - Auto-Cut Out find subject and cut out background
 - Auto-Crop detect interesting subject area
 - Image Repair
- New corrections
 - Sharpen



Imaging: Creation and Effects

Enable creation of images for Office output

- Graphics creation for Office:
 - Intelligent Auto Compress for images
 - Create background
 - Improved "Send To" functionality
 - Text Annotations
- Imaging Effect for Office scenarios
 - Tint, Color, Other effect filters
 - Cut out



Major Areas of Investment

- Richer Annotations

- Awesome Ink Email!

- Pen/Ink for Drawing

- Improved Pen/Ink UI

Cross-Office Initiative (our team drives)

- Making Office12 GREAT on TabletPC's

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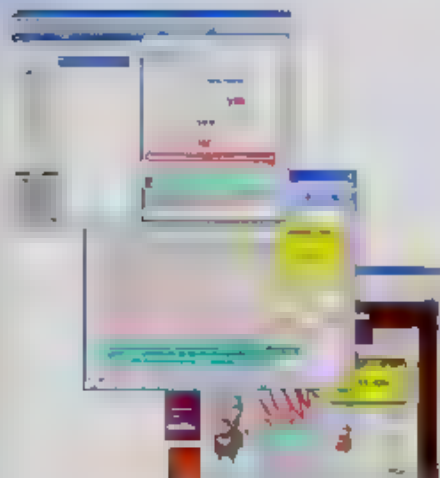
100% Annotation Scenarios

Personal Annotations (Reader)

Matkutus alku on se, että ei ole

Neatly arranged lead line

The attachments are for my own use



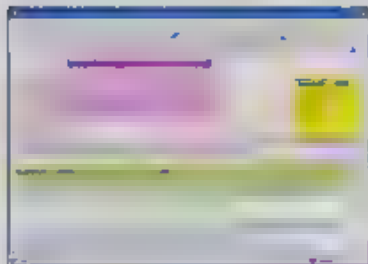
100% Annotation Scenarios

Personal Annotations (Reader)

- Markup any document on the web
- Search for anything I read later
- The annotations are for my own use

Public Discussion/Review (Reviewer)

- Markup a shared or emailed document
- My comments viewable by everyone or only me



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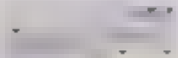
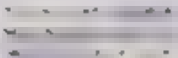
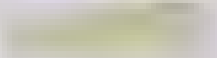
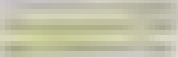
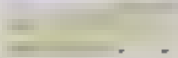
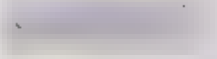
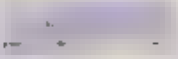
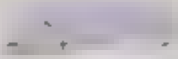
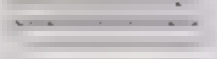


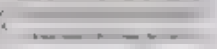

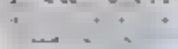
Markup a shared or emailed document
My comments viewable by everyone or only me

Document Review/Editing (Author)

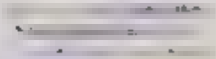
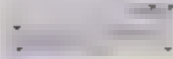
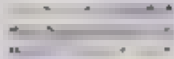

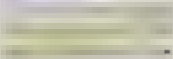

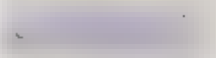



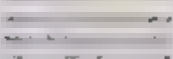
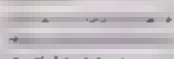



Select all annotations on a document
Review/search later annotations
Make changes to doc based on markup

Note: these scenarios are not
exclusive; e.g., bubble bubbles
and voice comments, etc.

Annotation Reflow: Word Example

	Original	Reflowed	Cleaned
Underline			
Highlight			
Circle			
Bar			
Marginalia			

Annotation Reflow: Word Example

	Original	Reflowed	Cleaned
Underline			
Highlight			
Circle			
Bar			
Marginalia			

Annotations Reflow Cont'd

Why we think we can pull this off:

- 5 major types of annotations *underline, highlights, marginalia, circle, margin bar*

58 ~~underline~~ ~~highlights~~

24 ~~are marginalia~~

8 ~~of personal annotations are anchor only~~

PPT and XL introduce some difficult cases for parsing, anchoring/reflow:

- 2D layouts: Diagrams, Drawings, Master Objects
- Tables
- XL filtering
- 2D layouts with templates/masters

Awesome Ink Email!

100% Scenarios

SEPER Easily address, add subject, and write body of new ink email or ink reply

Free-form Annotate an email thread and send reply that looks right to all recipients

Batch convert ink email to text

Relevant Research Findings

Usability, Beta

Nobody wants to write in a box

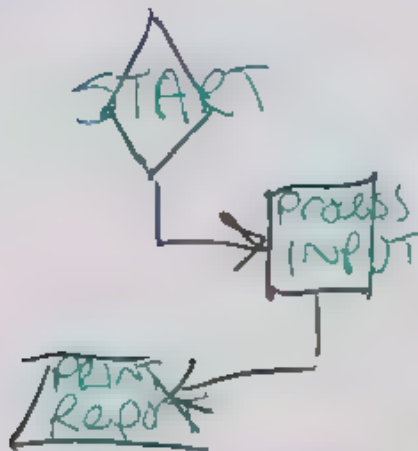
It's sucks to add a subject

People want to bulk convert ink to text

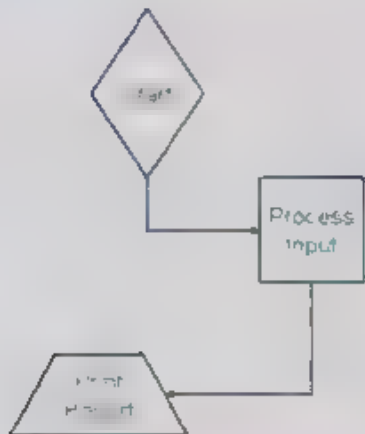
- Annotation

User of Office 11 and BillG really want the Tablet ad bed and showed this

Sketch Convert to Drawing



Sketch Convert to Drawing



PowerPoint 12 key features

21st century documents

- OfficeArt improvements

- Animation and multimedia

- Exposing the above through templates and styles

Presenting improvements – leveraging multiple monitors

- Digital meetings: remote attendees, recording presentations

Pitchbooks

- support for dense printed documents

- Presentation assembly and digital asset management

- XML, and handling of a new file format

Animation and multimedia improvements

Flash-like text effects

Modern transition effects

Animation techniques for better
communication

Improved video and audio support

- sound/video across slides
- better performance and control

Professional not garish styles

Animation Styles

Key Goals

- Replace existing Animation Schemes feature with a new feature that helps users construct complex animations easily
- Help customers add animations that make communication more effective

- Uses

- Diagram, chart, table animation
- Pictures synchronized with bullets

MegaCorp Sales Figures



Red Sales
Blue Sales
Green Sales

Apply to selected chart:

3D Bar Chart



3D Bar Chart

Subtle



Subtle 3D Bar Chart



Subtle 3D Bar Chart

Advanced

Hypercube 3D

Subtle 3D Bar Chart



Alert

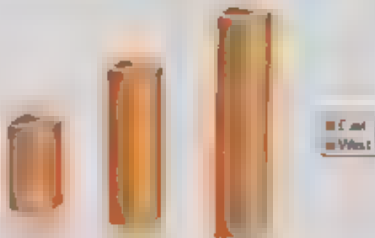
File Edit View

File Edit View

File Edit View



MegaCorp Sales Figures



Apply to selected chart:

The Animation



NO ANIMATION

Style



Style NO ANIMATION



Style ANIMATION

Advanced Animation Settings

Apply to selected chart

Apply to all charts

MegaCorp Sales Figures



Apply to selected chart:

The Animation



3D Animation

Multiple



3D Multiple Series



3D Multiple Series

Advanced

Advanced 2D

Advanced 3D

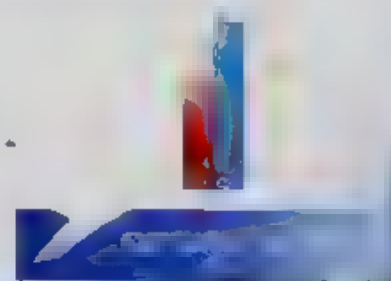
Advanced 3D

Advanced 3D

Richer presentation templates

Control more than just background and font

- Table, chart, diagram styles
- Intelligent color model
- Better 2-D positioning (designer grid?)

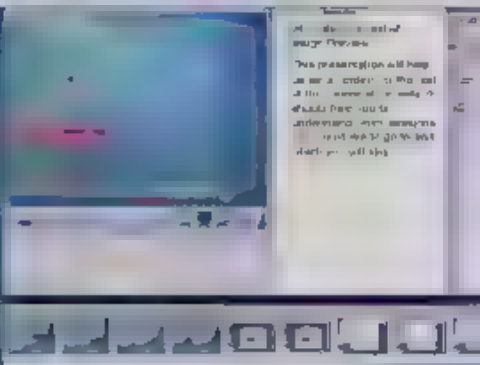


Presenter view through multiple monitors

Projected Image to Audience



Laptop Display for Presenter



Distribution scenarios

How would you like to distribute your PowerPoint Presentations?



A "D-POM" will be burned with the desired PowerPoint Presentations and the PowerPoint player. This D will play on computers running Windows 98 or later.

- ☒ Save to CD
- ☐ Save as Video
- ☐ Save to DVD-Video
- ☐ Save to Network Share ★
- ☐ Save to SharePoint Site
- ☐ Send as E-mail Attachment

Yes >

Cancel

Distribution scenarios



How would you like to distribute your PowerPoint Presentations?

☐ Save to CD

☐ Save as Video

☐ Save to DVD-Video

☒ Save to Network Share

☐ Save to SharePoint Site

☐ Send as E-mail Attachment

Your files will be saved to a network share. If other people on the network do not have Microsoft PowerPoint, you can save it with the PowerPoint viewer.

Record Presentation

Key Goals

Enable user to capture the presentation experience so they can distribute the rich presentation later

Minor goal: Unify UI for record narration, record timings

Records a user giving a presentation, either at her desk or in front of an audience

Captures interactivity, mouse movements, ink, plus video and audio of the presenter

Integrated into Podium view feature

Integrated with LiveMeeting (implemented by ?)



Podium Presentation

Record Audio

Record Audio & Video

Record Click Timings only

Major focus: Pitchbooks

PowerPoint files are increasingly a mission critical document type for pitch books, financial investment DDD, etc.

Frequently targetted for print, and may never be used on screen.

Complex layouts with many more objects than a title and body. Font sizes are often too small for reading when projected, or for editing at fit to window, zoom scales.

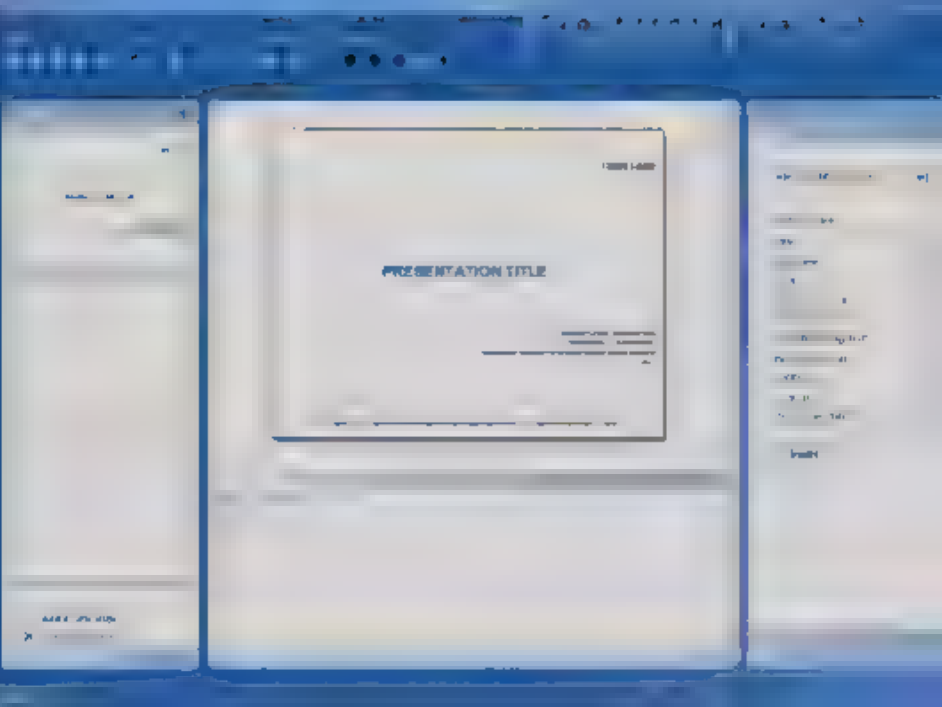
Often assembled from existing slides, graphics and data.

Document creation can involve complex workflow, reviewing cycles, signoff requirements, permission restrictions, and expiration dates.

Stringent corporate design and construction guidelines.

Authoring by multiple people is common, potentially simultaneously.

Custom solutions are frequently developed to help programmaticaly assemble these presentations.



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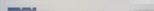
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Page 1



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1. Add a new slide

2. Add a new slide



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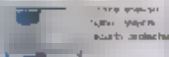
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8. Update the story



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Page 1



Table 1



Table 2



Table 3

Table 4

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Microsoft Internet Explorer



"The title bar of Internet Explorer is now blue. You can now see the title bar of the window you are viewing."

OK

Cancel

Table 1 and Table 2



Table 3 and Table 4

Table 5 and Table 6

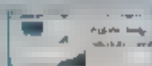


Table 5

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Table 11

Table 12

Market: Optical Switches



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ON PURPOSE AND PRINCIPLES



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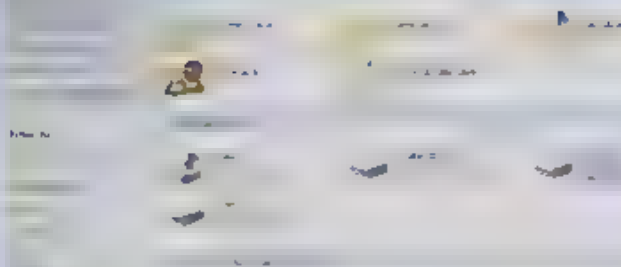
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Transport market design



Transition mapset diagram



Figure 1a

Mr. and Mrs. J. J. J.



20 results

Mr. and Mrs. J. J. J.



20 results and 10 images

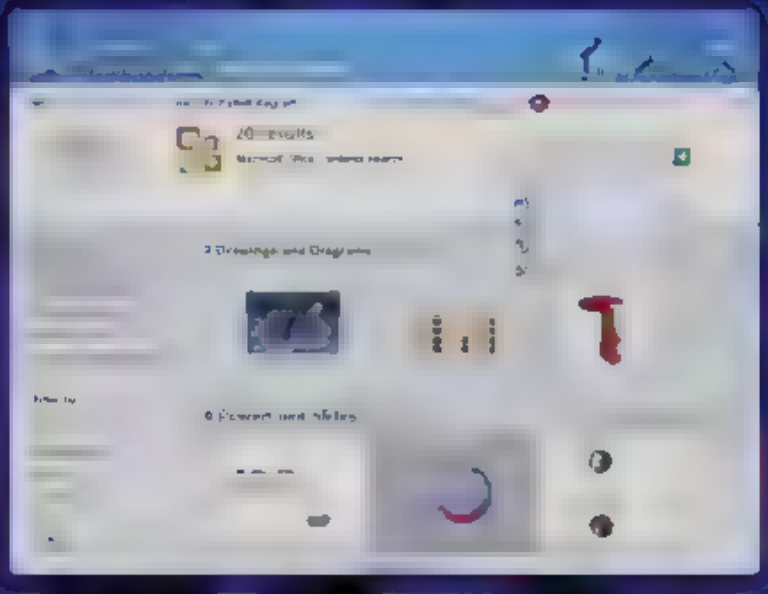


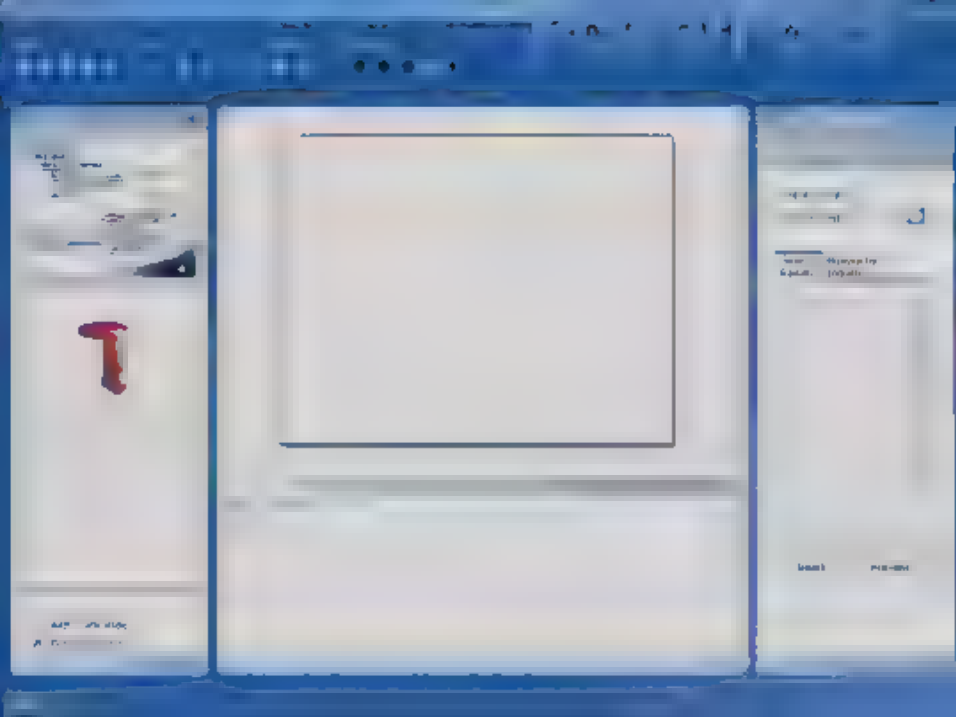
Filter by

6 powered and 15.2m

10 results

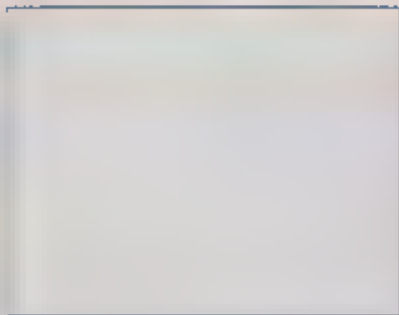








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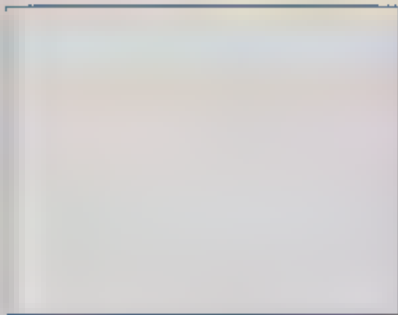
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AMERICAN HISTORY

1776-1777



1776-1777

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Team Support

2004-2005

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Figure 1

F18-0004

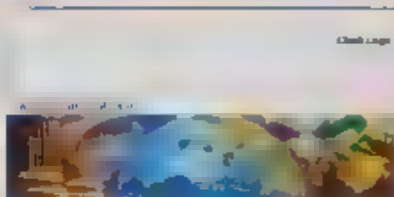


Chart 1, page

Analytics

Personal Analytics

- 1. Data Overview
- 2. Data Source
- 3. Data Source
- 4. Data Source
- 5. Data Source
- 6. Data Source
- 7. Data Source

Home Analytics

Time Passes



Team Sheet

Develop



Team Information

3/14/2013

You are now signed in as **supernova** on **14 March 2013**

your name

supernova

Principal Analyst

14 March 2013

4430127

14 March 2013

Manager

14 March 2013

Auto-logout

Logout



Q1: 100
Q2: 150
Q3: 200

Team Sheet

Team Sheet



Team Sheet

Team Sheet

Team Sheet

Team Sheet

Team Sheet

Team Sheet

Team Sheet

Team Sheet

Policy Sheet

Policy Sheet

Policy Sheet

Policy Sheet

Policy Sheet

[illegible]

The screenshot shows the 'New User' form in the 'Users' section of the 'Security' module. The form has the following fields and controls:

- Username:** A text input field with a 'required' attribute.
- Password:** A text input field with a 'required' attribute and a 'password' type attribute.
- Email Address:** A text input field with a 'required' attribute and an 'email' type attribute.
- Role:** A dropdown menu with a 'required' attribute, showing 'Admin' as the selected option.
- Create User:** A button to submit the form.

XML file format

- New for PowerPoint and OfficeArt
- Architected for reliability, security, extensibility
- Support document shredding and assembly
- Office consistency
- Hard problems
 - Size and Perf
 - Container
 - Backwards compatibility



Research problems?

- Color and style models, including 2-D transformations
- Imaging improvements, including size management and auto-correct features
- Ink recognition and anchoring – beyond just text
- Remote presentations and presentation recording
- XML technologies - document assembly, etc
- Other?



Questions...

